IN THE CLAIMS

Please amend the claims as follows:

1-16. (Canceled)

17. (Previously Presented) A method for use in a medical device, comprising:
providing a first plurality of sequential intervals based on cardiac electrical activity, with the plurality of atrial intervals including a plurality of shortest intervals, and a plurality of longest intervals, and a plurality of remaining intervals exclusive of the shortest and longest intervals;
determining a range statistic, a minimum interval statistic, and a dispersion statistic based on the plurality of remaining intervals, wherein the range statistic is based on the difference between a first and last occurring intervals of the remaining intervals, the minimum interval statistic is based on the shortest of the remaining intervals, and the dispersion statistic is based on a variance of the remaining intervals;
determining an assessment statistic based on the range statistic, the minimum interval statistic, and the dispersion statistic; and
selecting a cardiac therapy option based on the assessment statistic.

18. (Previously Presented) The method of claim 17:
wherein the plurality of sequential intervals are atrial depolarization intervals; and
wherein selecting the a cardiac therapy option comprises:
determining whether the assessment statistic is greater than a threshold; and
selecting an atrial fibrillation therapy if the assessment statistic is determined to be greater than the threshold.

19. (Previously Presented) The method of claim 17:
wherein the plurality of sequential intervals are atrial depolarization intervals; and
wherein selecting the cardiac therapy option comprises:
determining whether the assessment statistic is less than a threshold; and
selecting an atrial flutter therapy if the assessment statistic is determined to be less than the threshold.

20. (Previously Presented) The method of claim 17, wherein selecting the cardiac therapy option comprises: determining whether the assessment statistic is greater than a threshold; and

selecting a ventricular fibrillation therapy if the assessment statistic is determined to be greater than the threshold.

21. (Previously Presented) The method of claim 17, wherein selecting a cardiac therapy option comprises:

determining whether the assessment statistic is less than a threshold; and

selecting a ventricular tachycardia option if the assessment statistic is determined to be less than the threshold.

22. (Previously Presented) The method of claim 17, wherein the assessment statistic is inversely proportional to the duration of the minimum interval and directly proportional to the range statistic and to the dispersion statistic.

23. (Previously Presented) The method of claim 17, wherein one or more of the intervals are composite intervals.

24. (Previously Presented) A machine-readable medium for controlling processing of a first plurality of sequential intervals based on cardiac electrical activity, with the plurality of atrial intervals including a plurality of shortest intervals, and a plurality of longest intervals, and a plurality of remaining intervals exclusive of the shortest and longest intervals, the medium comprising instructions for:

determining a range statistic, a minimum interval statistic, and a dispersion statistic based on the plurality of remaining intervals, wherein the range statistic is based on the difference between a first and last occurring intervals of the remaining intervals, the minimum interval statistic is based on the shortest of the remaining intervals, and the dispersion statistic is based on a variance of the remaining intervals;

determining an assessment statistic based on the range statistic, the minimum interval statistic, and the dispersion statistic; and

selecting a cardiac therapy option based on the assessment statistic.

25. (Previously Presented) The medium of claim 24:
wherein the plurality of sequential intervals are atrial depolarization intervals; and
wherein the instructions for selecting a cardiac therapy option comprise instructions for:
determining whether the assessment statistic is greater than a threshold; and
selecting an atrial fibrillation therapy if the assessment statistic is determined to be greater than the threshold.

26. (Previously Presented) The medium of claim 24:
wherein the plurality of sequential intervals are atrial depolarization intervals; and
wherein the instructions for selecting a cardiac therapy option comprise instructions for:
determining whether the assessment statistic is less than a threshold; and
selecting an atrial flutter therapy if the assessment statistic is determined to be less than the threshold.

27. (Previously Presented) The medium of claim 24, wherein the instructions for selecting the cardiac therapy option comprise instructions for:
determining whether the assessment statistic is greater than a threshold; and
selecting a ventricular fibrillation therapy if the assessment statistic is determined to be greater than the threshold.

28. (Previously Presented) The medium of claim 24, wherein the instructions for selecting a cardiac therapy option comprises:
determining whether the assessment statistic is less than a threshold; and
selecting a ventricular tachycardia option if the assessment statistic is determined to be less than the threshold.

29. (Previously Presented) The medium of claim 24, wherein the medium is an electronic memory.

30. (Previously Presented) The medium of claim 24, wherein one or more of the intervals are composite intervals.

31. (Previously Presented) A method comprising:
calculating a set of two or more intervals based on data representative of an electrogram;
calculating a minimum interval based on the set of intervals;
calculating a range statistic based on a stability measurements for at least a subset of the intervals;
calculating a dispersion index based on a subset of the intervals;
calculating a number based on the minimum interval, the range statistic, the dispersion index; and
comparing the number to a threshold.

32. (Previously Presented) The method of claim 31, wherein each stability measurement is a weighted average of differences between successive intervals.

33. (Previously Presented) The method of claim 32, wherein the weighted average emphasizes relative importance of more recent intervals.

34. (Previously Presented) The method of claim 31, wherein computing a number based on the minimum interval, the range statistic, and the dispersion index comprises computing the number based on an function having one of the following forms:

$$IDA_1 = K*Range * Dispersion\_index * (Min\_interval)^{-1}$$

$$IDA_2 = K_1*Range + K_2* Dispersion\_index + K_3*(Min\_interval)^{-1},$$

where K, K_1, K_2, and K_3 denote constants; Range denotes the range statistic; Dispersion_index denotes the dispersion index; and Min_interval denotes the minimum interval.

35. (Previously Presented) The method of claim 31, wherein K and K3 are each approximately 1.0, and wherein K1 and K2 are each approximately 0.0001.